HTTP Lab

In this lab we will use the HEAD and GET commands from the HTTP protocol. Together these commands allow you to retrieve information about a web resource (its header) or get the resource itself. Along with PUT and POST (that we won't be using in this lab) these comprise the primary commands in the HTTP protocol.

1 – Login to Icarus using putty

2 – Use Icarus' telnet command to connect to the http port (port 80) of icarus.cs.weber.edu
telnet icarus.cs.weber.edu 80

This should take you into the "telnet" command prompt where you can enter telnet commands.

Note: This connection will time out within a short amount of inactive time for security reasons. To complete this lab you will probably have to type the telnet commands into another document, run the telnet command and then paste the commands in. Otherwise you will get disconnected while typing most of the commands.

If you see <your username>@icarus:~$ (or anything similar) then you are back outside of the telnet command prompt. When that happens you'll need to run the telnet command again.

3 – Run the following telnet commands:
HEAD /~jn58729/gogetem.html HTTP/1.1
host: icarus.cs.weber.edu

Note: You don't need to copy and paste them one by one. Copy and Paste both together.

After entering the commands hit enter twice. Copy and paste the output here.

```
HTTP/1.1 200 OK
Date: Tue, 12 Apr 2016 02:08:10 GMT
Server: Apache/2.4.7 (Ubuntu) SVN/1.8.8 mod_fastcgi/mod_fastcgi-SNAP-0910052141 mod_fcgid/2.3.9 PHP/5.5.9-1ubuntu4.14 OpenSSL/1.0.1f
mod_perl/2.0.8 Perl/v5.18.2
Last-Modified: Thu, 30 May 2013 19:10:53 GMT
ETag: "ad-4ddf441db7555"
Accept-Ranges: bytes
Content-Length: 173
Vary: Accept-Encoding
Content-Type: text/html
```

What is the Content-Type of this file?

This file has a content type of text/html.

4 – Run the following telnet commands (Rerun the telnet connection command if you need to):
GET /~jn58729/gogetem.html HTTP/1.1
host: icarus.cs.weber.edu

After entering the commands hit enter twice. Copy and paste the output here.

```
HTTP/1.1 200 OK
Date: Tue, 12 Apr 2016 02:08:58 GMT
Server: Apache/2.4.7 (Ubuntu) SVN/1.8.8 mod_fastcgi/mod_fastcgi-SNAP-0910052141 mod_fcgid/2.3.9 PHP/5.5.9-1ubuntu4.14 OpenSSL/1.0.1f
mod_perl/2.0.8 Perl/v5.18.2
Last-Modified: Thu, 30 May 2013 19:10:53 GMT
ETag: "ad-4ddf441db7555"
Accept-Ranges: bytes
Content-Length: 173
Vary: Accept-Encoding
Content-Type: text/html

<form action="http://icarus.cs.weber.edu/~jn58729/ps.cgi" method="GET">
        <p>What is the userID?
        <input name="userid" /></p>
        <input type=submit value="SUBMIT" />
</form>
```

What is different between the HEAD command and the GET command?

The HEAD command only fetches the header, whereas the GET command gets the whole shebang.

5 – Run the following telnet commands:
HEAD /~jn58729/JPG.jpg HTTP/1.1
host: icarus.cs.weber.edu

Copy and paste the output here.

```
HTTP/1.1 200 OK
Date: Tue, 12 Apr 2016 02:10:02 GMT
Server: Apache/2.4.7 (Ubuntu) SVN/1.8.8 mod_fastcgi/mod_fastcgi-SNAP-0910052141 mod_fcgid/2.3.9 PHP/5.5.9-1ubuntu4.14 OpenSSL/1.0.1f
mod_perl/2.0.8 Perl/v5.18.2
Last-Modified: Fri, 19 Jul 2013 05:38:09 GMT
ETag: "3393a-4e1d6bb54f240"
Accept-Ranges: bytes
Content-Length: 211258
Content-Type: image/jpeg
```

What is the Content-Type of this file?

This file has a content-type of image/jpeg.

Why do you think the HEAD command tells you the Content-Type?

The header always comes before the body – That being said, whatever is receiving the response from the server will know how to handle the type. This would especially come in handy if the body was huge… If the client didn't know what the body was, it would have to parse the entire thing which could potentially take a long time, wasting CPU cycles.

6 – Think of the commands we just ran from the perspective of your web browser. How do you think a web browser knows when to download a file, when to display it as HTML on your screen and when to display it as a picture or multimedia file?

The content type, duh! Going back to my previous response – If the browser didn't know what kind of content it was displaying right off the bat, it would be much slower and hog resources.